

**IN THE CLAIMS:**

A status of all the claims of the present Application is presented below:

1-22. **(Canceled)**

23. **(Original)** An optical integrated circuit, comprising:

a first optical waveguide formed in a first dielectric layer operable to conduct optical signals;

an optical interconnect formed in a second dielectric layer disposed above the first dielectric layer; and

a second optical waveguide formed in a third dielectric layer disposed above the second dielectric layer and operable to conduct optical signals, whereby the optical interconnect is operable to conduct optical signals from the first optical waveguide to the second optical waveguide.

24. **(Original)** The optical integrated circuit, as set forth in claim 23, wherein the optical interconnect has a disk configuration.

25. **(Original)** The optical integrated circuit, as set forth in claim 23, wherein the optical interconnect has a ring configuration.

26. **(Original)** The optical integrated circuit, as set forth in claim 23, wherein the first optical waveguide and the second optical waveguide are oriented at a predetermined angle with one another.

27. **(Original)** The optical integrated circuit, as set forth in claim 23, wherein the first optical waveguide and the second optical waveguide are generally parallel with one another.

28. **(Original)** The optical integrated circuit, as set forth in claim 23, wherein the first optical waveguide and the second optical waveguide are generally perpendicular to one another.

29. **(Original)** The optical integrated circuit, as set forth in claim 23, wherein the first optical waveguide comprises a dopant region formed in the first dielectric layer.

30. **(Original)** The optical integrated circuit, as set forth in claim 23, wherein the second optical waveguide comprises a dopant region formed in the third dielectric layer.

31. **(Original)** The optical integrated circuit, as set forth in claim 23, wherein the optical interconnect comprises a dopant region formed in the second dielectric layer.

32. **(Original)** The optical integrated circuit, as set forth in claim 23, further comprising a conductive contact disposed above the second optical waveguide, the conductive contact operable to make optoelectronic contact with the second optical waveguide.

33. **(Original)** The optical integrated circuit, as set forth in claim 23, further comprising a second conductive contact disposed below the first optical waveguide, the conductive contact operable to make optoelectronic contact with the first optical waveguide.

34. **(Original)** The optical integrated circuit, as set forth in claim 33, further comprising:

a first circuit component disposed above the second optical waveguide and electrically coupled to the conductive contact; and

a second circuit component disposed below the second optical waveguide and electrically coupled to the second conductive contact.

35-36. **(Canceled)**